

CLAIMS

1(Amended). A magnetic head, in which a multilayer film is disposed, the multilayer film including metal magnetic films and non-magnetic films that are alternately laminated, and a boundary between the multilayer film and a magnetic oxide substrate or a non-magnetic substrate on which the multilayer film is to be formed is parallel with a gap section at a surface of the magnetic head for sliding with respect to a magnetic recording medium, wherein the metal magnetic films constituting the multilayer film have a uniform thickness, and the uniform thickness t satisfies $t < v \times \cos\theta / f_{\max}$, where v denotes a relative speed of the head to the recording medium, f_{\max} denotes an upper limit of frequencies to be used and θ denotes an azimuth angle.

2(Canceled).

3(Canceled).

4. The magnetic head according to claim 1, wherein the metal magnetic films constituting the multilayer film have a uniform thickness within a range of 100 nm to 2000 nm.

5. The magnetic head according to claim 1, wherein the magnetic films comprise a magnetic alloy film having a composition represented by the following formula:



where T denotes at least one element selected from the group consisting of Fe, Co and Ni, M denotes at least one element selected from the group constituting of Nb, Zr, Ti, Ta, Hf, Cr, Mo, W and Mn, X denotes at least one element selected from the group consisting of B, Si and Ge, and N denotes nitrogen, wherein a, b, c and d represent atomic% satisfying $65 \leq a \leq 93$, $4 \leq b \leq 20$, $0 \leq c \leq 20$, $2 \leq d \leq 20$ and $a + b + c + d = 100$, respectively.

6. The magnetic head according to claim 1, wherein the non-magnetic films comprise an oxide of Si, Al, Ti, Cr or Ta.

7. The magnetic head according to claim 1, wherein the substrate

comprises: magnetic Mn-Zn ferrite single crystal; non-magnetic ferrite single crystal; α -hematite; calcium titanate or magnesium titanate.

8(Amended). A magnetic recording/reproducing device provided with a magnetic head, in which a multilayer film is disposed, the multilayer film including metal magnetic films and non-magnetic films that are alternately laminated, and a boundary between the multilayer film and a magnetic oxide substrate or a non-magnetic substrate on which the multilayer film is to be formed is parallel with a gap section at a surface of the magnetic head for sliding with respect to a magnetic recording medium,

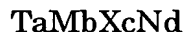
wherein the metal magnetic films constituting the multilayer film have a uniform thickness, and the uniform thickness t satisfies $t < v \times \cos\theta / f_{\max}$, where v denotes a relative speed of the head to the recording medium, f_{\max} denotes an upper limit of frequencies to be used and θ denotes an azimuth angle.

9(Canceled).

10(Canceled).

11. The magnetic recording/reproducing device according to claim 8, wherein the metal magnetic films constituting the multilayer film have a uniform thickness within a range of 100 nm to 2000 nm.

12. The magnetic recording/reproducing device according to claim 8, wherein the magnetic films comprise a magnetic alloy film having a composition represented by the following formula:



where T denotes at least one element selected from the group consisting of Fe, Co and Ni, M denotes at least one element selected from the group constituting of Nb, Zr, Ti, Ta, Hf, Cr, Mo, W and Mn, X denotes at least one element selected from the group consisting of B, Si and Ge, and N denotes nitrogen, wherein a, b, c and d represent atomic% satisfying $65 \leq a \leq 93$, $4 \leq b \leq 20$, $0 \leq c \leq 20$, $2 \leq d \leq 20$ and $a + b + c + d = 100$, respectively.

13. The magnetic recording/reproducing device according to claim 8, wherein the non-magnetic films comprise an oxide of Si, Al, Ti, Cr or Ta.

14. The magnetic recording/reproducing device according to claim 8,
wherein the substrate comprises: magnetic Mn-Zn ferrite single crystal;
non-magnetic ferrite single crystal; α - hematite; calcium titanate or
5 magnesium titanate.